

State of Louisiana  
Department of Transportation and Development (DOTD)  
Materials and Testing Section Qualification Procedure  
for  
Qualified Products List 70

**GROUND GRANULATED BLAST-FURNACE SLAG**

**MATERIAL SPECIFICATION REFERENCE:**

DOTD Standard Specifications, Supplemental Specifications and Special Provisions, Subsection 1018.28 (copies attached). Ground Granulated Blast-Furnace Slag shall meet the requirements of AASHTO M-302. Testing procedures shall follow the requirements of AASHTO M-302.

**PRELIMINARY REQUIREMENTS:**

**Qualified Product Evaluation Form**

The manufacturer shall submit a standard "Qualified Product Evaluation Form" (copy attached) to the DOTD Materials and Testing Section Coordinator listed below, along with a letter requesting evaluation for the Qualified Products List. The following information must be included in the request for evaluation:

- 1) Complete names and addresses of the Ground Granulated Blast-Furnace Slag source and owner.
- 2) Complete name and address of the supplier.
- 3) Complete name and address of the producer of Ground Granulated Blast-Furnace Slag For Use In Concrete and Mortars.
- 4) Type of Slag produced.
- 5) Description of the Slag storage facilities including capacities.
- 6) An outline of production procedures including pulverization techniques, description of additives mixed with slag during production, and slag collection methods.
- 7) An outline of the supplier's quality assurance sampling and testing program.

- 8) Name and address of laboratory performing quality control tests.
- 9) Intended use of slag.

### **Product Data Sheets**

Manufacturer is to include a Materials Safety Data Sheet (MSDS).

### **Certification and/or Test Reports**

Submit a notarized Certificate of Analysis for the five preliminary samples. The Certificate of Analysis shall show test results applicable to the intended use of the material. All testing conducted for the certificate of analysis shall be performed by a laboratory which has been inspected by CCRL.

### **Sample (to be furnished at no cost to the Department)**

Submit five daily samples, each consisting of approximately 5 kg (10 Lbs.) of slag, to the DOTD Materials and Testing Coordinator for evaluation. Each sample shall be randomly taken each day for five days from one identifiable storage unit.

The supplier shall forward applicable physical and chemical test results obtained on the sample to the DOTD Materials and Testing Coordinator upon completion of tests. After completion of tests, the Department may grant source approval depending on the results of the samples. When source approval is given, monthly samples begun.

## **TEST REQUIREMENTS:**

### **Laboratory Testing**

Each qualification sample will be tested by a Laboratory previously inspected by CCRL for compliance with the applicable Departmental Specification for its intended use. All tests will be conducted in accordance with AASHTO Designation M-302.

### **Field Evaluation**

The Department may require an Inspection of the plant to review methods of sampling, testing and handling of slag.

**Total Evaluation Time**

Laboratory Testing - 2 months  
Field Evaluation - 7 months

**GENERAL:**

Upon completion of the evaluation, the distributor will be notified in writing concerning the results of the evaluation and whether the source will or will not be added to the Qualified Products Lists. Source approval may be granted based on the Department's satisfaction that consistent ground granulated blast-furnace slag is being produced, and that it conforms with Departmental specifications.

1. Effective Quality Control Program:

The source must have an effective quality control program to ensure that the ground granulated blast-furnace slag possesses uniform characteristics within the Department's specifications.

If approved, the manufacturer is required to submit a list to DOTD Materials and Testing Coordinator showing plant representatives authorized to:

- a) Sample slag in accordance with this procedure.
- b) Sign "Certificate of Delivery for Ground Granulated Blast-Furnace Slag" forms which must be completed for each shipment.
- c) Submit monthly source samples and sign certificates of analysis for the monthly source samples.

2. Provide Monthly Samples:

The monthly sample will be a representative sample of the production of slag for each month. The 10 kg (20 lbs.) sample is to be split with half retained and tested by a CCRL inspected laboratory and half submitted to the DOTD Materials and Testing Coordinator. All results obtained on monthly samples must be submitted to the DOTD Material and Testing Coordinator with proper identification stating month represented and sample number.

3. Allow Periodic Inspections by Department Personnel:

The Department reserves the right to send a representative to make on-site inspections of facilities with emphasis on the method of sampling and testing.

4. Maintain List of Authorized Representatives

All approved suppliers shall submit and maintain a list of representatives authorized to sign documents pertaining to the certification, testing and shipment of slag.

5. Provide Certificate of Delivery for Ground Granulated Blast-Furnace Slag Forms for each Shipment:

A completed "Certificate of Delivery for Ground Granulated Blast-Furnace Slag" form, supplied by the Department, shall accompany all shipments of Ground Granulated Blast-Furnace slag intended for use on state projects. A copy of each form shall also be sent to the Materials Engineer Administrator. This form shall be signed by an authorized representative. The distributor shall keep the certificate on file and issue a new certificate with each shipment to state projects with a copy of the new certificate mailed to the Materials Engineer Administrator.

**PROJECT ACCEPTANCE REQUIREMENTS:**

Verification

The Department's personnel will sample shipments to state projects in accordance with the Department's Materials Sampling Manual. These samples will be submitted to the Materials Section for testing in accordance with AASHTO Designation: M-302 for compliance to the specifications governing the intended use.

Acceptance

Ground Granulated Blast-Furnace Slag received on the jobsite from an approved source will be accepted by project personnel based on properly completed Certificate of Delivery forms. The Certificate of Delivery shall be signed by an authorized representative of the supplier and should accompany each shipment to state projects. The certificate should address specifically the specification governing each delivery's intended use.

**DISQUALIFICATION:**

The Department reserves the right to remove any source from the Qualified Products Lists at any time confidence is lost in a manufacturer's ability or intent to produce material of uniform characteristics complying with Departmental specifications. Causes for removal from the list may include, but are not limited to the following:

1. Failure of the supplier to provide proper certifications as required by this procedure.
2. Failing test results obtained by the Materials Section on consecutive verification samples.

**REQUALIFICATION:**

Once removed from the Qualified Products List, a source may gain reinstatement by submitting a written request to the Materials Engineer Administrator for reinstatement indicating the causes and solutions to the problem areas which caused removal, and satisfying all of the preliminary requirements shown herein.

After examination of the information gained from the above, at the Materials Engineer Administrator's discretion, the source may be reinstated after a minimum period of 3 months from the date of request for reinstatement.

**DOTD MATERIALS AND TESTING SECTION COORDINATOR**

Khiet H. Ngo, P.E.  
Physical Test Engineer  
DOTD Materials and Testing Section  
5080 Florida Boulevard  
Baton Rouge, La. 70806  
(225) 248-4134

Approved 03-03-2003

N. D. HOOD, P.E.  
MATERIALS ENGINEER ADMINISTRATOR